**Introduction**

- Many premature infants experience growth failure following delivery.
- Traditionally catch-up growth was assumed to be complete until early childhood, but research now suggests it is ongoing until at least adolescence.
- Most studies have been biased towards Small for Gestational Age (SGA) premature infants.
- Few studies have compared growth to local term control populations.

**Aim**

To determine whether preterm appropriate weight for gestational age (AGA) children reach their expected adult height when compared to term controls.

**Materials and methods**

- 204 Preterm infants born at tertiary neonatal unit, Jessop Wing, Sheffield during 1994.
- 50 Term controls, matched for sex, social class and maternal smoking.
- Exclusions:
  - Significant neurological impairment
  - Living more than 20 miles from study centre
  - Annual assessment of growth by trained research nurse at child’s home
  - Parental heights recorded in neonatal period
  - Growth complete when rate of growth <2cm/year

**Results**

- 80 preterm children and 30 term children followed up until completion of growth.
- No significant difference in final height or BMI of term or preterm children compared to term controls.
- Catch-up growth continued throughout childhood.

<table>
<thead>
<tr>
<th>Group</th>
<th>&lt;29 weeks</th>
<th>29-33 weeks</th>
<th>33-37 weeks</th>
<th>Preterm</th>
<th>Term</th>
<th>P value (Term vs Preterm)</th>
<th>P value (comparing gestational groups)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Height SDS</td>
<td>-0.35</td>
<td>0.45</td>
<td>0.02</td>
<td>0.10</td>
<td>0.45</td>
<td>0.356</td>
<td>0.075</td>
</tr>
<tr>
<td>Proportion with Final Height &lt; -2SD</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>5/80 (6.3%)</td>
<td>2/30 (6.7%)</td>
<td>1.00</td>
<td>N/A</td>
</tr>
<tr>
<td>Mean MPH SDS</td>
<td>-0.05</td>
<td>0.08</td>
<td>-0.09</td>
<td>0.18</td>
<td>0.32</td>
<td>0.522</td>
<td>0.006*</td>
</tr>
<tr>
<td>Mean Difference Between Final Height SDS and MPH SDS</td>
<td>-0.37</td>
<td>-0.25</td>
<td>0.01</td>
<td>-0.14</td>
<td>0.13</td>
<td>0.326</td>
<td>0.159</td>
</tr>
<tr>
<td>Proportion of Children Not Meeting Target Centile</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>7/73 (9.6%)</td>
<td>0/27 (0%)</td>
<td>0.185</td>
<td>N/A</td>
</tr>
<tr>
<td>Final MPH SDS</td>
<td>0.52</td>
<td>0.20</td>
<td>-0.44</td>
<td>0.39</td>
<td>0.03</td>
<td>0.137</td>
<td>0.656*</td>
</tr>
<tr>
<td>Proportion of Children with BMI &gt;2SD at completion of growth</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>7/80 (9.0%)</td>
<td>1/30 (3.3%)</td>
<td>0.439</td>
<td>N/A</td>
</tr>
</tbody>
</table>

- Small number (n=7) of preterm and SGA infants.
- SGA infants significantly shorter than peers (SGA mean height SDS -0.98 vs AGA 0.18, p<0.01) and parents (SGA mean difference in final height SDS to MPH SDS -1.52 vs AGA 0.12 p<0.01).

**Graph to Show Mean Height SDS from 0-16 years for Four Gestational Groups, Corrected For Mean Mid-Parental Height SDS**

**Conclusions**

- Preterm AGA children achieve comparable adult height to term controls.
- Catch-up growth continues throughout childhood.

**References**